

REMARKS

Reconsideration of the application is requested in view of the above amendments and the following remarks. An editorial amendment has been made to claim 1. Claims 1-33 are pending in the application. Changes made to the claims by the current Amendment are shown in the attached "Version with Markings to Show Changes Made."

The Examiner has maintained the rejection of claims 1-6, 19, 23-25 and 27-30 under 35 U.S.C. § 103(a) as being unpatentable over Ward, U.S. 4,205,258. Applicants respectfully traverse this rejection.

Ward discloses an high intensity discharge ("HID") lamp including a fuse to prevent anomalous heat generation. The fuse disclosed by Ward is designed specifically for the type of heat and other conditions present in an HID lamp. When an outer envelope 14 that encloses a hard vacuum is filled with a gas for some reason (e.g., a slow leakage from the outer envelope 14 or an arc tube 12) an anomalous discharge occurs in the outer envelope 14. The heat generated by the anomalous discharge melts a sleeve member 44 of a fuse means 34 so that a fusible element 36 (connected to an electrical conductor 32a) and an electrical conductor 32b are connected electrically. As a result, the anomalous discharge is stopped and the power supply to a pair of electrodes 16a, 16b positioned within the arc tube 12 at both ends thereof is cut off to stop an arc discharge between the electrodes 16a, 16b, thereby preventing further anomalous heat generation.

The fuse means 34 disclosed by Ward is connected between the electrical conductors 32a, 32b, electrode 16a is connected to electrode conductor 32a, and electrode 16b is connected to electrode conductor 32b. In contrast, claim 1 requires an electrode coil mounted between so as to be connected to two lead wires that are held by a bulb-end glass, and means for preventing overheating that is also mounted between the lead wires so as to be connected to both of the lead wires that support the electrode coil. As a result, the means for preventing overheating according to claim 1 is connected in parallel with an electrode coil. Because Ward discloses separate electrodes 16a, 16b that are each connected to only one of the electrode conductors 32a, 32b, the structure required by claim 1 is not disclosed by Ward.

The means for preventing overheating required by claim 1 has particular usefulness for the conditions of a fluorescent lamp. When the emissive coating of the electrode coil is dissipated at the end of a lamp life, the means for preventing overheating according to claim 1

melts and retains its molten state, and thus connects the lead wires electrically to prevent the bulb-end glass from being melted and damaged.

The fuse means 34 disclosed by Ward is connected in parallel with a discharge path between the electrodes 16a, 16b and is not associated with or in proximity to an electrode coil. When an anomalous discharge occurs in the outer envelope 14 due to the slow leakage, the fuse means 34 melts and connects the electrical conductors 32a, 32b electrically regardless of the activity of the electrode 16a, 16b. Thus, Ward fails to disclose connecting electrical wires "just before or after an electrode coil is disconnected," as required by claim 1, and further fails to disclose that the fuse "retains its molten state," as required by claim 1.

Further to the above, the fuse means 34 disclosed by Ward is provided outside of the arc tube 12. In contrast, the means for preventing overheating of claim 1 is provided within the bulb and located between the electrode coil and the bulb-end glass. For the fluorescent lamp of claim 1, the electrode coil generates extraordinary heat by the dissipation of the emissive coating. At the time of dissipation of the emissive coating, the means for preventing overheating is melted faster than the bulb-end glass because a distance from the electrode coil to the means for preventing overheating is shorter than a distance from the electrode coil to the bulb-end glass. Thus, it is possible to prevent the bulb-end glass from being melted. Because the fuse means 34 disclosed by Ward is not provided inside the arc tube 12, but is rather provided outside the arc tube 12, the fuse means 34 is melted by heat generated by the anomalous discharge in the outer envelope 14 rather than from heat generated because an electrode coil is disconnected.

JUN-16-03 11:46AM FROM Merchant & Gould

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T-642 P.007/008 F-704

In view of the above, Applicants request reconsideration of the application in the form of a Notice of Allowance.

Respectfully submitted,

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Date: June 16, 2003



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Serial No. 09/762,367

VERSION WITH MARKINGS TO SHOW CHANGES MADEIn the Claims

Claim 1 has been amended as follows:

1. (Twice Amended) A fluorescent lamp comprising:

a bulb provided with a pair of electrode coils at both ends thereof, each of the electrode coils mounted between two lead wires held by a bulb-end glass,

wherein a means for preventing overheating of the bulb-end glass is mounted between the lead wires located between the electrode coil and the bulb-end glass, the means for preventing overheating [connects] melting and retaining its molten state to connect the lead wires electrically just before or after the electrode coil is disconnected[, and the means for preventing overheating melts at the end of a life of the fluorescent lamp and retains its molten state].

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